

### **REMARKS**

Favorable reconsideration of this application in light of the following discussion is respectfully requested.

Claims 1-3 and 5-20 are presently active in this case. The present amendment amends Claims 3, 17, and 19 without introducing any new matter.

The Office Action of June 6, 2005 rejected Claims 1-7, 15-17 and 19-20 under 35 U.S.C. §112, first paragraph, as based on a disclosure which is not enabling. Claims 3-7, 17 and 19 were rejected under 35 U.S.C. §112, second paragraph, as indefinite. Claims 1-3, 5-6, 8-13 and 15-20 were rejected under 35 U.S.C. §102(b) as anticipated by Nounin et al. (U.S. Patent No. 5,802,469, herein "Nounin"). Claims 7 and 14 were rejected under 35 U.S.C. §103(a) as unpatentable over Nounin in view of Ohno et al. (U.S. Patent No. 6,219,715, herein "Ohno").

The Advisory Action of October 25, 2005 maintained the rejection of Claims 1-7, 15-17 and 19-20 under 35 U.S.C. §112, first paragraph, the rejection of Claims 1-3, 5-6, 8-13 and 15-20 under 35 U.S.C. §102(b), and the rejection of Claims 7 and 14 under 35 U.S.C. §103(a).

First, Applicant wishes to thank Examiners Nawaz and Barot for the courtesy of an interview granted to Applicants' representative on December 5, 2005, at which time the outstanding issues in this case were discussed. Arguments similar to the ones developed hereinafter were presented, and the Examiners indicated that in light of the arguments and amendments to Claims 3, 17, and 19, the rejections under 35 U.S.C. §112 first and second paragraph were overcome, and that they would reconsider the outstanding grounds for rejection under 35 U.S.C. §102(b) upon formal submission of a response.

As discussed in the December 6, 2005 interview and in response to the rejection of Claims 3-7, 17 and 19 under 35 U.S.C. §112, second paragraph, Claims 3, 17 and 19 are

amended to recite “obtained by the protocol processing as an encapsulated IP packet to be received by the radio terminal.” These changes find non-limiting support in Applicants’ specification at page 9, lines 15-23. In view of amended Claims 3, 17 and 19, it is believed that all pending claims are definite and no further rejection on that basis is anticipated.

In response to the rejection of Claims 1-7, 15-17 and 19-20 under 35 U.S.C. §112, first paragraph, Applicants traverse the rejection and request reconsideration of the rejection, as next discussed.

Regarding Claims 1 and 15, the outstanding Office Action asserts that the disclosure does not teach “the radio terminal is further configured to process the response message received by the first or second communication interface.” Applicants respectfully disagree, as next discussed.

Applicants’ specification at page 26, lines 23-25 states that “the radio terminal 11 appropriately processes the received response message” and further states at page 15, lines 5-20 that “the radio terminal 11 has a first radio interface 111 ... and a second radio interface 112.” The specification further explains at page 15, lines 21-27 that **both** the first and second radio interfaces 111 and 112 can have a reception function. At page 19, lines 12-13, the specification states that “[t]his response message is received by the second radio interface 112 of the radio terminal 11” and page 28, lines 17-21 recites “[t]his response message is received by the first radio interface 111 of the radio terminal 11 ... [and] the radio terminal 11 processes the received response message.” Further support can be found in Figure 2. Accordingly, all the features of independent Claims 1 and 15 are described in the specification as originally filed and enable one of ordinary skill in the art to make and/or use the invention.

Regarding independent Claims 3, 17 and 19, the outstanding Office Action further asserts that the disclosure does not teach “the communication interface is also configured to

transmit a response message corresponding to the request obtained by the protocol processing in the form such as received by the radio terminal through the second sub-network.”

Applicants respectfully disagree, as next discussed.

Applicants’ specification explains from page 8, line 33 to page 9, line 5 that protocol processing is provided, wherein “a response message corresponding to the request message obtained by the protocol processing from the first sub-network to the radio terminal through the downlink radio network *or* the bidirectional communication network” (emphasis added). Since both the downlink radio network or the bidirectional communication network are connected to the radio terminal 11 by the first and second radio interface 111 and 112, as explained from page 14, line 23 to page 15, lines 20 and in corresponding Figure 2, and Applicants’ specification further recites from page 25, line 31 to page 26, line 3 that “the second transmission interface 112 is set as a transmission interface, Applicants believe that all the features of independent Claims 1 and 15 are described in the specification as originally filed and enable one of ordinary skill in the art to make and/or use the invention.

In response to the rejection of Claims 1-3, 5-6, 8-13 and 15-20 under 35 U.S.C. §102(b), Applicants respectfully request reconsideration of this rejection and traverse the rejection, as discussed next.

Briefly recapitulating, Applicants’ invention, as recited in Claim 1, relates to a network system including, *inter alia*, a radio terminal, a ***first sub-network*** and a ***second sub-network***. The radio terminal has a first communication interface useable for reception only and a second communication interface usable for transmission and reception. The radio terminal can be connected to the *first sub-network through a radio base station of a downlink radio network* by using the first communication interface. The radio terminal can also be *connected to the second sub-network through a bidirectional communication network* by using the second communication interface. The second sub-network is connected with the

first sub-network through a backbone network. The first sub-network includes at least a packet relay device. Independent Claims 3, 8, 15, 17-20 recite similar features.

As disclosed in the specification, when a radio terminal enters a radio area of the radio base station, the radio terminal receives notification message indicating an existence or an address of the packet relay device on *the first sub-network* through the downlink radio network by using the first communication interface. Subsequently, the radio terminal transmits a request message requesting a protocol processing with respect to the first sub-network from the radio terminal through the second sub-network. The packet relay device receives the request message through the second sub-network and the backbone network, and carries out the protocol processing on the first sub-network according to the request message on behalf of the radio terminal. The packet relay device returns a response message corresponding to the request message obtaining by the protocol processing to the radio terminal through the downlink radio network or the bidirectional communication network. Finally, the radio terminal processes the response message received by the first or second communication interface.

The reference Nounin, used by the outstanding Office Action to for the 35 U.S.C. §102(b) rejection, describes a first base station 101 connected to *the network* for providing a bidirectional channel at low transmission speed, and a second base station 103 connected to *the same network* for providing a high-speed downlink channel, and a terminal device 105.<sup>1</sup> Applicants respectfully submit that Nounin does not disclose all the features of Applicants' independent Claim 1. In particular, Nounin fails to teach or suggest *a first sub-network* to which the radio terminal is connected through a radio base station of a downlink radio network; and *a second sub-network* to which the radio terminal is connected through a bidirectional communication network. The outstanding Office Action asserts that Nounin

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<sup>1</sup> See Nounin at column 8, lines 24-30 and in Figures 2-3.

teaches the claimed first sub-network, and that it corresponds to Nounin's uni-directional channel 5 that allows data to be transmitted uni-directionally between the radio terminal 105 and the base station 103; and that Nounin teaches the second sub-network, and that it corresponds to Nounin's bi-directional downlink channel 4 between the base station and the radio terminal.<sup>2</sup> Applicants respectfully disagree. Applicants' independent Claim 1 clearly recites that the radio terminal is connectable to the first radio base station through a downlink radio network. In Nounin, the terminal 105 is connectable to the second base station 103 through the *uni-directional* channel 5.<sup>3</sup> Accordingly, it can be concluded that the uni-directional channel 5 in Nounin corresponds to the downlink radio network of Applicants' invention and *cannot correspond* to the first sub-network of the Applicants' invention. Accordingly, Nounin fails to teach or suggest the claimed second sub-network being a bi-directional downlink channel between the base station and the radio terminal.

Furthermore, in Applicants' Claim 1 the radio terminal is connectable to the second radio base station through a bi-directional communication network. Nounin's terminal 105 is connectable to the first base station 101 through the bi-directional channel 4.<sup>4</sup> Accordingly, the bi-directional channel 4 in Nounin corresponds to the bi-directional communication network of Applicants' invention *and does not correspond* to the second sub-network of Applicants' invention. Furthermore, since Nounin only discloses one network 1 for transmitting data to the terminals 105,<sup>5</sup> it is respectfully submitted that Nounin fails to teach or suggest the claimed first and second sub-networks.

Since Nounin fails to teach or suggest the first and second sub-networks, Applicants respectfully submit that Nounin also fails to teach or suggest "the radio terminal receive a notification message indicating an existence or an address of the packet relay device on the

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<sup>2</sup> See the outstanding Office Action at page 2, lines 8-12 and in Nounin in Figure 3.

<sup>3</sup> See Nounin at column 8, lines 24-41 and in Figure 3.

<sup>4</sup> See Nounin in Figure 3.

<sup>5</sup> See Nounin at column 8, lines 42-64.

first sub-network through the downlink radio network,” as clearly recited in independent Claim 1 as further explained in Applicants’ response filed on December 15, 2004.

Accordingly, Applicants respectfully traverse, and request reconsideration of the 35 U.S.C. §102(b) rejection over Nounin.

Applicants further respectfully submit that Nounin also fails to teach or suggest that “a packet relay device [is] configured to receive a request message requesting a protocol processing,” as clearly recited in independent Claim 1.

The outstanding Office Action asserts that Nounin teaches that upon establishing wireless communication between the radio terminal and the base station, the radio terminal sends a request to the base station for processing; after processing the request, the base station sends the response data back to the radio terminal.<sup>6</sup> Applicants respectfully disagree. According to Applicants’ invention, the packet relay device carries out the protocol processing on the first sub-network *in response to the request message on behalf of the radio terminal*. Both the Office Action of June 6, 2005 and the Advisory Action of October 25, 2005 assert that Nounin discloses a base station receiving and processing requests from radio terminal via a plurality of protocols, and that therefore Nounin’s system is performing protocol processing, and points out to Nounin at column 6, lines 60-65. However, Nounin merely teaches that an address resolution protocol is used for discrete control of the correspondence of the MAC address and the IP address.<sup>7</sup> Nowhere in Nounin it is taught or suggested that such a protocol processing is done in response to a request message on behalf of the radio terminal. Accordingly, merely using an address resolution protocol, as taught by Nounin, *is not* a base station receiving and processing requests from a radio terminal via a plurality of protocols, as claimed. Nounin further neither teaches nor suggests the first sub-network or a packet relay device in the first sub-network, as described above. In Applicants’

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<sup>6</sup> See the outstanding Office Action at page 3, lines 9-14.

<sup>7</sup> See Nounin at column 6, lines 62-66.

invention, the packet relay device is not the base station, as clearly recited in the claims. The base station is located between the radio terminal and the first sub-network, while the packet relay device is in the first sub-network.<sup>8</sup>

Accordingly, Nounin also fails to teach or suggest “the packet relay device receives a request message requesting a protocol processing with respect to the first sub-network from the radio terminal through the second sub-network,” as claimed in independent Claim 1.

Since independent Claims 3, 8, 15, 17-20 recite limitations analogous to the limitations recited in independent Claim 1, for the reasons stated above for the patentability of Claim 1, Applicants respectfully submit that the rejection of Claims 3, 8, 15, 17-20 is also believed to be overcome in view of the arguments regarding independent Claim 1.

In response to the rejection of Claims 7 and 14 under 35 U.S.C. §103(a), Applicants respectfully request reconsideration and traverse this rejection. Since all the independent Claims are believed to be allowable, dependent Claims 7 and 14 are also believed to be allowable. Furthermore, Ohno does not remedy the deficiencies Nounin. Ohno discloses an automatic address distributing system, and is silent on the features as above noted.

Consequently, in view of the present Amendment, no further issues are believed to be outstanding in the present application, and the present application is believed to be in condition for formal Allowance. A Notice of Allowance for Claims 1-3 and 5-20 is earnestly solicited.

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<sup>8</sup> See for example in Applicants' Specification in the 3<sup>rd</sup> and 6<sup>th</sup> paragraph, and in Claim 1.

- Application No. 09/842,862  
Reply to Office Action of June 6, 2005

Should the Examiner deem that any further action is necessary to place this application in even better form for allowance, the Examiner is encouraged to contact Applicants' undersigned representative at the below listed telephone number.

Respectfully submitted,

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